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CHOICES

THE HUMAN DEVELOPMENT MAGAZINE

JUNE 1993

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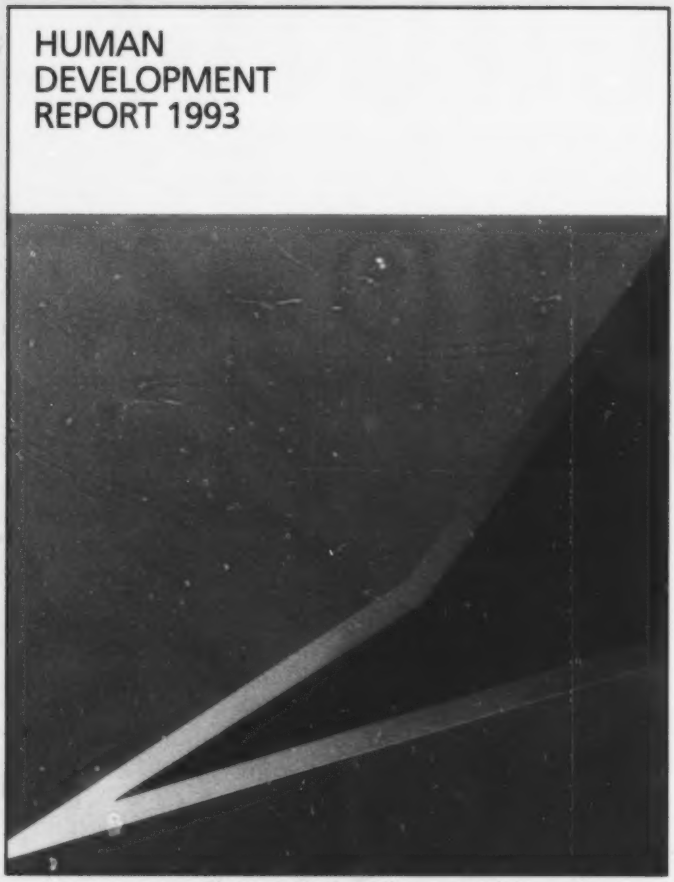

The cover illustrates the growth of the world economy (top line) and the lagging growth in jobs (bottom line).

Who shares? Only ten per cent of the world's people participate fully in the events and processes that shape their lives.

- **Economies** are growing but leaving people behind, which will result in a deficit of a billion jobs by the year 2000.
- **Minorities** get a small piece of the pie, even in the world's richest country. Whites in the USA rank first in human development, while African-Americans and Hispanics rank below some developing countries.
- **Political power** stays in national capitals, particularly in the developing world. On average, less than ten per cent of total national spending in developing countries is delegated to local government, versus 40 per cent in industrial countries.

Who cares? Many people, and for them, the ***Human Development Report 1993*** lays out the argument for wider participation in economies, politics and civil society. It sets strategies for "people-friendly markets," decentralization of government power and broader support to non-governmental organizations.

The Human Development Report 1993, published by Oxford University Press for the United Nations Development Programme, can be ordered through the publishers listed on the back cover of CHOICES.

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CHOICES

THE HUMAN DEVELOPMENT MAGAZINE

VOL.2, NO. 2

FEATURES

Dragon in a Basket Andrew Lam 4
A Field of Dreams in Northeast Asia Holly Ornstein Carter 10
An Indian Institute's Breakthrough Vaccines Denise Barricklow 28

COVER STORY

The International Year of the World's Indigenous People: "First Nations" Speak Out James Walls 14

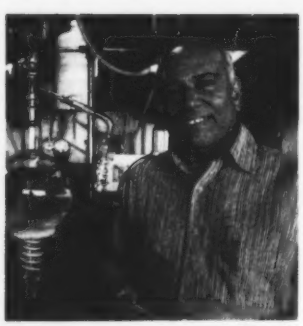
VIEWPOINT

Living With the Wild Jonathan S. Adams 22

POINT COUNTERPOINT

Can Africa Afford a Green Revolution? Frederick Brown / Vandana Shiva 24

Page 22



Page 28

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Cover photo of a Mayan woman in Chiapas, Mexico by Jeffrey Jay Foxx.

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Jacques Langevin / Sygma

BY ANDREW LAM

Hanoi and Ho Chi Minh City – Situated at the southeast end of the Asian map, Viet Nam coils in the smooth shape of an elongated "s." The country is a potential economic dragon, many here say. But before it can take off and become a magnet for investment, Viet Nam must first solve domestic problems stemming from decades of war.

Abruptly abandoned by its former communist allies in Eastern Europe and the former Soviet Union, who were major donors of foreign aid, the Vietnamese government is now scrambling to perform the complex and extremely difficult task of maintaining its hold on political power while allowing the seeds of a free market economy to take root.

"There is a large and hollow gap as Viet Nam moves from a centrally planned to a free market economy," says Le Doan Phach, director of the international cooperation department of the Ministry of Construction. What is needed is an entirely new infrastructure to replace the old one – new roads, new rules of law, new information and certainly new attitudes to sustain the spirit of reform.

It is not an easy task, Mr. Phach says, especially when Viet Nam faces a host of domestic challenges.

Indeed, the word the ruling central committee in Hanoi fears most these days is *bat on* or instability. Its population is growing larger, younger and more restless. It is estimated that about 60 per cent

With enormous potential, and growing support from the world community, Viet Nam is anxious to emerge from 18 years of economic isolation.

DRAGON IN A BASKET

Ho Chi Minh City.

of the country's 70 million people are under 25 years old.

According to Ray Mallon, an economist with the United Nations Development Programme (UNDP), the lack of jobs and under-employment are emerging as serious problems which could threaten economic reforms.

A rapidly growing work force, reduction in public sector employment, large numbers of demobilized soldiers and returning workers from the former Soviet Union, Eastern Europe and the Gulf States have exacerbated the problem.

Noan Nguyen, 24, is a case in point. Once a soldier stationed in Cambodia, Mr. Nguyen has been unemployed since his unit withdrew and disbanded three years ago. "Sometimes, if I am lucky, I find work as a day labourer for less than US$2 a day. My life is very hard. Most people I know will do anything, legal or illegal, to survive."

Other Vietnamese youths, seeing no future, speak of *di quay* – to go wilding – and *song voi* – to live fast. Every night in bustling Ho Chi Minh City, popularly known as Saigon, hundreds of them can be seen riding their bicycles in endless circles. Those who can afford a cup of coffee gather in the city's popular sidewalk cafes, smoking and listening to American rock songs.

Adding to Viet Nam's woes is the fact that AIDS is on the rise in Ho Chi Minh City and in the southern provinces, as it is in other parts of Asia.

"I know I am taking risks, but there is no hope for me, just this job," says Nam Anh Pham, a 16-year-old whose haircut and dress bear a curious resemblance to Madonna's. She works as a "bar girl" in one of Ho Chi Minh City's many cafes.

To its credit, the Vietnamese government has committed to serious reforms. In April 1992 a new Constitution was passed by the National Assembly. Though it recognizes the Vietnamese Communist Party as the leading force of the state, it also stipulates that the party should operate within the framework of new laws. More importantly, however, the same Constitution recognizes the rights of the state, co-operatives and, indeed, private capitalists, to engage in economic activities and to own and transfer property.

And despite a US embargo (put in place in 1975), short-term prospects for the country's economy are surprisingly optimistic, with most analysts now predicting growth of six to eight per cent a year. In 1992, actual growth was about eight per cent with inflation falling to 17.5 per cent. Exports were up by 30 per cent the same year, with Viet Nam emerging as major exporter of rice.

The government has dismantled many state-owned factories that were losing money. According to the World Bank, 70 per cent of the country's gross national product is now being generated by the private sector.

As a result, urban construction is booming in both the south and the north. In Ho Chi Minh City, new mini hotels, shops, restaurants, discotheques and private villas seem to mushroom overnight. Says one businessman who has become wealthy through real estate dealings in Thu Due, a development area on the outskirts of Ho Chi Minh City: "Socialism was never really my style... business people here were just waiting for Hanoi to catch up."

Yet it is this fast-growing prosperity in the private sector that has caused some alarm in the government. Lacking experience in running a market economy, unskilled in macroeconomic administration and management, unfamiliar with legal frameworks needed to support such bold economic reforms, Hanoi now worries that it might lose control over the economy.

VIET NAM: KEY HUMAN DEVELOPMENT INDICATORS

Life expectancy at birth, 1990 (years)	62.7
Educational attainment, 1990:	
Adult literacy rate (%)	87.6
Mean years of schooling	4.6
Real GDP per capita, 1989 (purchasing power in US$)	1,000
Human development rank among 160 countries, based on indicators above	102

Source: 1992 Human Development Report

"This is where external assistance can help," says Roy Morey, resident representative of UNDP in Viet Nam, which manages a five-year, $120 million programme of technical assistance to the country. "We see ourselves as a partner to Viet Nam on policy reforms."

UNDP, in fact, was established in Hanoi in 1978 – one of the few donors who remained in the country in the decade following Viet Nam's invasion of Cambodia. Though its first five-year programme period started with only $44 million, it has since grown to become the organizations's ninth largest country programme worldwide. Mr. Morey explains, "As Viet Nam shifts toward a decentralized market-oriented, outward-looking system, we have to similarly shift our assistance strategy."

UNDP's major areas of focus include support for economic reform and strengthening economic performance, human development and environmentally sustainable growth, and human settlements.

Standing in the way of the country's impressive growth are two factors, says a sceptical Australian businessman in Hanoi: "Corruption and regionalism. These problems are a heavy burden for the process of reform."

Corruption, indeed, is acknowledged and widespread, and is resorted to because of economic need. One government official explains it this way: "If you work for the state, chances are you'll make less than $10 a month. A pedicab driver makes three times more than a college professor."

The situation has had a decided effect upon the young. Says Son Tran, 35, who recently came back from Eastern Europe: "Most of the younger generation would rather have nothing to do with the state. Since Viet Nam opened its doors and encouraged capitalism, we are interested only in making money."

Jacques Langevin / Sygma

As much as $50 billion is needed to develop Viet Nam's infrastructure and production base.

Not a bad idea, perhaps, except for the gap that continues to widen between the Vietnamese people and the government. To some economists here, it is precisely that gap, over the long term, that may hurt prospects for economic reform by discouraging public investment.

As Mr. Tran says, "It's a question of trust. If we make money, why would we buy a state-owned company's bond that may prove worthless in a year?" The leadership has to earn the people's trust, Mr. Tran says, before the gap can be filled.

Adding fuel to the fire of instability is regionalism, which threatens to spin out of control. North and south Viet Nam, for instance, operate under two economies, with the entrepreneurial south leading the reform-resistant north by 30 years, according to Mr. Nguyen Xuan Oanh, a Harvard-trained economist.

But the main gap still separating north and south goes far deeper than economics. The Viet Nam war which ended in 1975 was essentially a civil war, and the US-backed south lost to the Soviet-backed north.

"Southerners don't forget we lost the war, so now we resist anything the regime tells us to do," says one former official who was sent to re-education camp for 12 years for his participation in the South Vietnamese army. "If the government tells us to do A, then we'll do B."

Nor is it simply the north-south disparity that gives the government its migraine-sized headache. Viet Nam's splintered administration has 453 districts and 40 provinces. The central government has little power over provincial authorities, that effectively have no control over district authorities.

Regionalism also complicates foreign investment. Says one businessman from

Though the potential here is enormous, it will be some time before the country can hope to emerge as another economic "miracle" like Thailand and South Korea.

Singapore at the Rex Hotel in Ho Chi Minh City: "You cannot do the same business in Can Tho as you do in Ho Chi Minh. The authorities in Can Tho will tell you: 'We didn't sign a contract with you so we can't honour your business. And we don't have the same law, so you have to give more money. It's just madness."

Complicating Viet Nam's future is another problem that few nations in the late 20th century have managed to escape: the destruction of the natural environment.

Viet Nam's population is growing at a rate of 2.2 per cent. Moreover, the country has already used up most of the available agricultural land and cannot afford to cut down remaining forests without serious consequences. "Viet Nam cannot let up pressure on the agricultural industry because it needs to feed its growing population," says Francis Rinville of the Food and Agricultural Organization of the UN. "But if people continue to cut down more forest, it will be the end of Viet Nam."

Ruth Massey / UNDP

A woman's group in the northern highlands has received UNDP support in the production and marketing of textiles.

Viet Nam, indeed, needs help. This is a country where the government spends less than $2 per person on health care and the average income is less than $200 a year. With the exception of the UN system, various NGOs, and the governments of Sweden and France, Viet Nam has received scant external assistance from most non-communist nations. This is largely due to the economic embargo that prohibits not only US businesses but other foreign corporations affiliated with the US from investing here. While the ban on humanitarian aid was lifted in 1992, the embargo effectively blocked hundreds of million of dollars in possible loans from the World Bank and the Asian Development Bank.

As of this writing, a number of Western countries have broken ranks with the US over the embargo, with additional aid coming from Norway and Finland. In November 1992, Japan resumed its development assistance to Viet Nam, pledging $360 million. Many here remain confident that the US will soon reverse its position.

UNDP economist Ray Mallon estimates that $40 billion to $50 billion in investment will be required over the next 10 years if the country is to develop the physical and social infrastructure and the production base it needs to make development sustainable.

So how does the future look for this country? Will the dragon take off?

Though the potential here is enormous, it will be some time before the country can hope to emerge as another economic "miracle" like Thailand and South Korea. One could, in the spirit of reform, say that Viet Nam's troubles are temporary "disruptions," as it finds its way along an unfamiliar path. It has, after all, an educated and eager work force, abundant natural resources (including crude oil and coal), and untouched pristine beaches which could transform the country into a tourist paradise.

And, ironically, due in part to the US embargo, Viet Nam has grown remarkably self-reliant. One could not, for instance, compare Viet Nam's economy with that of, say, consumerist Japan. The quality of life for the Vietnamese has a less direct correlation with personal income than it does for an individual living in an industrialized country. Clothes, food, furniture, even living quarters are in general produced by the Vietnamese themselves, especially in the countryside where three-quarters of the population still live.

In recent years, Viet Nam has also seen the emergence of a number of impressive domestic NGOs. VACVINA, for one, is a national farmers' association whose chief aim is to help its members maximize production on their own farms. With help from UNDP and UNICEF, the organization is also disseminating messages about pre-

Ironically, due in part to the US embargo, Viet Nam has grown remarkably self-reliant.

serving the country's fragile ecology. "We could all do a lot more," says Tuong Pham of the Aquaculture Research Institute, which is working with VACVINA, "if we had more money."

Mr. Pham's cry for help may not go unheard for long. Foreign aid to Viet Nam is expected to rise dramatically over the next five years. In July 1992, Hanoi hosted business talks with some 33 countries around the world, among them Japan, South Korea, France, Britain and Australia.

There is something else Viet Nam has that many other developing countries do not, says Tan Nguyen, a Vietnamese-American hoping to open a restaurant in Ho Chi Minh City: "There are large and successful Vietnamese communities in Australia, France and especially the US," he says. "There are at least 200,000 professionals and business people in the US alone who, once relations between the two countries are normalized, could greatly contribute to the reconstruction of their homeland."

Mr. Nguyen, once a boat person who escaped Viet Nam in 1979, says that life in his country has improved quite dramatically since he fled. "I see a willingness to change for the better in both the private and public sectors – it's a question of survival." ■

Andrew Lam, a Vietnamese-American who has lived in both countries, is an associate editor with the Pacific News Service.

GREEN VERSUS GREENBACKS

By Janet Gardner

Hanoi, Viet Nam – Recycled US military lorries loaded with logs one to two metres in circumference climb regularly over narrow dirt roads into the blue mountains near Da Nang. They pass government signs that threaten stiff fines or jail sentences for those who cut down trees or set forest fires. Patches of burned fields and smoke rising over a nearby mountain signal a further lack of enforcement.

While concern is growing over Viet Nam's endangered environment, it is clear that for most Vietnamese more immediate economic needs come first. Forestry and forest products provide a livelihood for one out of three people in this impoverished Southeast Asian country. In the words of one environmentalist, Viet Nam's inhabitants have "eaten up the forest" and used up most of the arable land through slash and burn agriculture.

The situation could easily worsen. Despite concerted government action to promote family planning, Viet Nam's population is expected to grow from an estimated 67 million in 1990 to 82 million by the year 2000. Forest cover in Viet Nam has shrunk from 44 per cent of the total land area in 1943 to 28 per cent, or 9.3 million hectares, today. Only two million hectares of the country's natural forests remain, and they are being reduced at a rate of 100,000 to 200,000 hectares a year.

In response, Viet Nam has begun to place limits on logging, including a ban on exporting raw logs. But because of economic constraints, the government has had to proceed modestly, says Viet Nam's Foreign Minister Nguyen Man Cam. He also concedes that restrictions on logging vary from region to region. "Sometimes local authorities don't comply because they just see local needs," he says.

The same laissez-faire attitude appears to operate in Ho Chi Minh Ville. The city named for the revolutionary hero is preparing to level green areas for golfers in the heart of a protected forest park. Local officials have proposed that new trees be planted to replace those cleared for two 18-hole golf courses, 500 vacation villas and a 300-room luxury hotel.

As Viet Nam struggles toward a market economy and new relations with the outside world, must a choice be made between conservation and development? According to Roy Morey, UNDP's resident representative in Hanoi, the answer is "no." "Preservation of the environment doesn't have to be an enemy of development, or vice versa," he says. "Sustainable development means taking full account of resource costs and planning accordingly. All too often, development investments have been made without a proper accounting of the long-term value of forested land, clean air and water."

Philip J. Griffiths / Magnum

Reforestation efforts are under way in 13 provinces along Viet Nam's coast.

Janet Gardner / UNDP

Vo Quy, one of Viet Nam's leading environmentalists.

UNDP and the UN Environment Programme (UNEP), working with the Government of Viet Nam, the World Conservation Union (IUCN) and the Swedish International Development Authority, have just completed a plan that takes such considerations into account. This environmental action plan – which covers everything from forests to marine and wildlife resources to sewerage for the country's two largest cities – details laws and policy measures to promote sustainable development to the year 2000. But will this impressive document be translated into meaningful action? Without the necessary political will, there is little chance that such ambitious goals can be achieved.

One significant step forward has been the creation of a central ministry for the environment, which has the support it needs at the local level. In addition, UNDP is helping prepare an investment strategy for the environment, which will be presented to donors at the end of 1993.

Projects are also under way that could help lay the groundwork for more comprehensive action. In 13 provinces along Viet Nam's coast, reforestation is being carried out with support from UNDP and the World Food Programme. But despite a $25 million budget over the next four years, experts say that erosion caused by drought and heavy rains is making tree-planting difficult. Also hurting the effort is the fact that laws that prohibit cutting of existing trees are easily circumvented or never enforced.

In the fertile Mekong Delta south of Ho Chi Minh City, forests have been slow to regenerate because of tonnes of chemical defoliants that were dropped on the area during the Viet Nam war. Denuded top soil has been washed away in heavy monsoons, destroying about 125,000 hectares of fragile mangrove forests. More recently, shrimp farmers have been burning the mangroves to expand production. Officials from the Ministry of Forestry are now attempting to show shrimp farmers that each time a mangrove is felled, acid is released into the water, limiting rice cultivation and affecting the supply of potable water. This also affects the ecological balance because mangroves nurture bird colonies in addition to bats, reptiles, foxes and boar.

"We know we need better management," says Vo Quy, director of the Centre for Natural Resources, Management and Environmental Studies at the University of Hanoi, and one of Viet Nam's most outspoken environmentalists. "Once the forests are gone, biodiversity will be destroyed."

Yet the forces working against such diversity are fierce in a country in which every tree, bird and beast carries an almost visible price tag. "There's so little money here that they'll make a commercial product out of anything," says Roger Cox, coordinator of the World Wildlife Fund for Nature's Indochina programme.

Javan rhinos, rare elephants, tigers, monkeys – including the Leaf monkey and Gibbon monkey – and a variety of birds valued for their genetic material, are routinely hunted by poachers, he says. Across Viet Nam, antique shops, hotels and trendy restaurants proudly display skins, tusks, or wild creatures stuffed to the gills.

"Endangered species is a new idea for Viet Nam," says Luu Quoc Minh, who heads UNDP's sub-office in Ho Chi Minh City. "Because of malnutrition, we have had to look after children before animals. We have serious social problems."

In a country that has been through so much, it seems somehow miraculous that Viet Nam still has a wealth of resources left to protect. In the remote Vu Quang Nature Reserve in central Viet Nam, for example, wildlife experts discovered a "lost world" teeming with rare birds, animals and fish. Found here to the delight of many naturalists are a previously unknown species of tortoise and an unusual dagger-horned goat. According to scientists, stepping into Vu Quang is "like opening a door into a lost and neglected place."

If all goes as planned, natural sanctuaries like Vu Quang will be protected. Just last August, a $3 million project was approved to help conserve Viet Nam's remaining forest cover as well as its biological treasures. The effort, which will include extensive training of Vietnamese nationals in conservation, is being implemented by the World Wildlife Fund and the IUCN, with funding from the UNDP/World Bank/UNEP Global Environment Facility. ■

Janet Gardner is a documentary filmmaker and journalist based in New York, with a long-standing interest in Indochina.

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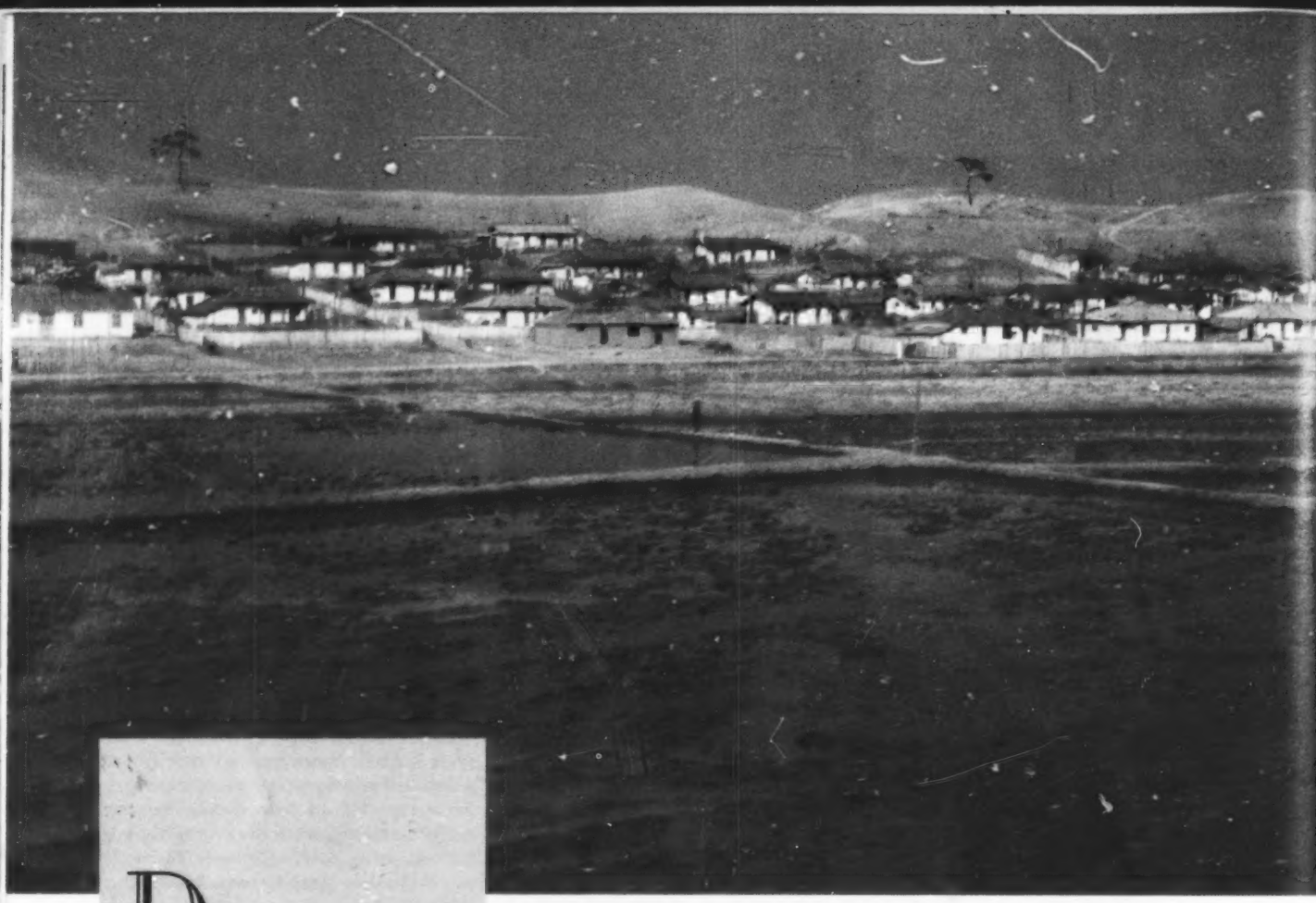
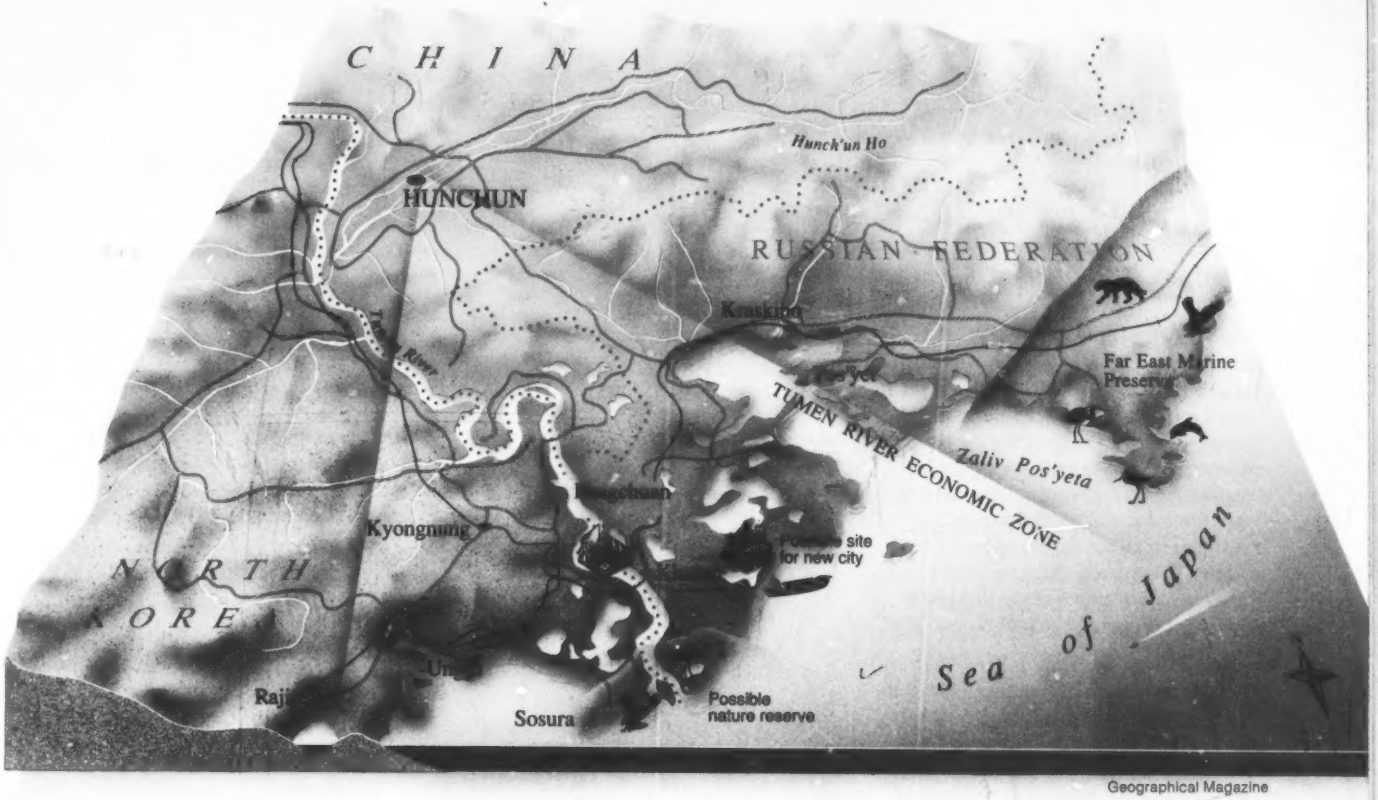


The Tumen River Delta area today (above) and plans for the future (right).

A Field of Dreams In Northeast Asia

Development of the Tumen River Delta area could bring huge economic rewards to countries in the region. But what will it take to turn this bold plan into reality?

By Holly Ornstein Carter



Geographical Magazine

Beijing – It would be hard to find more unlikely partners if you wanted to start a corporation. Their resumes read: little experience with capitalism, historic mistrust of one another, financially unstable.

Despite these shaky credentials, China, Russia and North Korea have begun working together, under the leadership of the United Nations Development Programme (UNDP), to create a sub-Siberian Hong Kong in a remote corner of northeast Asia. The unusual alliance has also brought collaboration from South Korea and Mongolia, and the interest of Japan, all of which stand to benefit if the plan realizes its goal: to transform the Tumen River Delta area – where the borders of China, Russia and North Korea meet – into a major international shipping, trading and manufacturing zone.

Carved out of the three countries, the economic zone would be managed much the same way as a corporation, with each of the partners collecting fees from jointly-run power plants, railway systems and shipping facilities.

"We can show the world that political barriers can be lowered for economic development," says UNDP programme manager John Whalen, "and that economic development can be the new world order."

In the process, the Tumen River Area Development Programme (TRADP) could serve as an instructive blueprint for other parts of the world where economic cooperation could help countries overcome both underdevelopment and political strife.

Expected to cost billions over the next 20 years, the initial cooperative zone, which spans 1,000 square kilometres, would get a vast port complex, roads, a telecommunications network, a new urban centre and an airport. The plan also envisions a transcontinental railway system stretching 10,000 kilometres from the port area to major markets in Europe, which is of special interest to the Japanese.

The potential of a new Asian gateway for global trade is clear to just about everyone. The development would offer easy access and improved transportation links to major markets in the industrialized Chinese provinces of Jilin and Heilong-Jang, as well as to the minerals, oil, coal, timber and other natural resources found in Russia, North Korea and Mongolia. Processed and manufactured goods and even cereal grains are prospective exports.

On the map the Tumen is at the centre of northeast Asia. But standing on the banks of this shallow river it is hard to imagine being at the centre of anything. It is even harder, perhaps, to see this thinly populated delta area, surrounded by mountains, mud huts and rice fields, as a booming metropolis of 500,000 people, which is what planners have in mind. For now, the picture is one of timeless calm, with villagers tending their fields, storks flocking to tidal estuaries, old trucks bumping along unpaved roads and leaky boats docked in quiet ports.

Frozen in time by communism, this part of the world has suddenly come to life with talk of increased economic activity and capitalism. But to many, the venture means entering new and uncharted

territory. "When you talk about 'CEOs' and 'corporations' many people here don't understand," says Herbert Levin, a special adviser to the United Nations who attended an October meeting of the six countries in Beijing.

Even the Chinese, with experience in land-leasing and special economic zones, are somewhat intimidated by so much talk of capitalism. "Legal and financial terms need clarification because we are not familiar with them," says Chinese team leader Long Yongtu. "We need to learn the rules of international trade. But no matter what the future outcome, the lessons China and other countries are learning are invaluable to their growth and integration into the global economy."

The goals of the Tumen River plan are as impressive as they are ambitious. But daunting challenges lie ahead, including vast sums of required capital, a lack of inhabitants and infrastructure in the area, and the risks to a pristine environment, which is home to many rare and endangered species including the Amur leopard, the black stork and the Mandarin duck.

Originating in the forests of the Long White Mountains (Changbai Shan) on the border of China and North Korea, the Tumen stretches 516 kilometres through North Korea, past Hunchun in northeast China, and empties into the Sea of Japan. Most of the Tumen marks the eastern border between China and North Korea, but the last 15 kilometres form the border between Russia and North Korea. In 1860, China lost access to the Sea of Japan as the result of the Peking treaty with Russia. The Chinese are anxious to regain access to it, and stand to, once the plan comes to fruition.

Sceptics are quick to point out the development's hefty cost, and say that it is too ambitious for the times. "The capital is too much and the area's resources too few," says John Seel, a Korean scholar who recently toured the proposed economic zone. "The roads are awful, there are few cars, and it's really dead." He asks, "How do you develop a Rotterdam when there are no people?"

But even the boldest of plans start with a single step, and in the case of TRADP that step was taken at a 1990 meeting in Changchun, China, co-sponsored by UNDP, where different strategies for developing Northeast Asia were brought to the table. However the real beginning of inter-governmental cooperation took place in Ulaanbaatar in July 1991, when China, both Koreas and Mongolia agreed that the plan was in their common interest. UNDP was asked to serve as a neutral catalyst. Later that year, North Korea, China and Russia agreed in principle to leasing the necessary 1,000 square kilometres needed for the development area.

The goals of the Tumen River plan are as impressive as they are ambitious. But daunting challenges lie ahead, including vast sums of required capital, a lack of inhabitants and infrastructure in the area, and the risks to a pristine environment.

While most of the activity will take place in the immediate economic zone (called the Tumen River Economic Zone – TREZ), which links Rajin in North Korea, Hunchun in China and Posyet in Russia, it is anticipated that development will also occur in a larger geographical area, reaching the cities of Vladivostok, Chongjin and Yanji.

Despite political differences, members of the initiative's Programme Management Committee (China, Russia, North Korea, South Korea, Mongolia, and Japan as an observer) realize that cooperative development can only fuel their economies. "The project will result in a better quality of life, more goods, more jobs and greater contact with the outside world," says K.G. Singh, UNDP's regional director for Asia and the Pacific.

Along with regaining access to the Sea of Japan, China hopes to stimulate economic development in its northeast area.

While it has had success so far with special economic zones – like Guangdong across from Hong Kong – China eagerly seeks growth and technology and is anxious for foreign investment.

Russian officials, initially worried that the cooperative venture might detract from their own free trade zone in Vladivostok, now believe that TRADP will complement rather than compete, and that the development will increase business in other Russian ports like Posyet and Nakhodka.

The North Koreans, faced with critical shortages of food, fuel and hard currency, are even more anxious for new economic opportunities to attract trade and foreign capital.

North Korea recently passed a law allowing for the development of economic and free trade zones in Chongjin, Rajin and Sonbong. But outsiders are still wary, especially when North Korea has over $6 billion in foreign debt. The multinational Tumen cooperation could help North Korea obtain an important basis with which to attract foreign money.

For Mongolia, a land-locked and geographically isolated country, TRADP could help end its foreign exchange shortage by providing an important transport corridor for growing Euro-Asian trade.

John Seel

North Korea's port at Chongjin is part of the wider geographical area that would benefit from theTumen development.

"My people will benefit by a connection with northeast Asian countries, the Republic of Korea, Japan and the United States," says Rentsengiin Batmend, a senior official and head of the Mongolian national team. "We face shortages of consumer goods and foreign currency, and this would help us earn more money."

Finally South Korea and Japan are attracted by potential new rail routes to Europe, and by better access to resource-rich Siberia and Mongolia and the cheap labour available there.

As for raising the necessary capital, there has been only tepid response from big money sources so far. Among the six countries involved, only two possess relative strength in capital and technology – Japan and South Korea – and they have yet to make any firm financial commitments.

Despite the large benefits to be gained, Japan is reluctant to foot the bill for economic reasons. Russia and North Korea do not enjoy high credit ratings in the investment markets. Moreover, unresolved political issues between Japan and both countries have overshadowed economic partnership.

South Korea is keen on increased cooperation with its northern neighbour, but is a bit wary of the expense. "We are eager to promote progress in TRADP," says Tae Yon Kim, South Korea's team leader and assistant minister for international policy coordination. "But South Korea cannot finance the whole or even a majority of that cost."

China, however, whose economy is booming, has agreed to invest more than $100 million to extend a railway it is building in the area into Russia, with the idea of creating a link to the Trans-Siberian railroad.

While the financing issue has yet to be resolved, TRADP planners are convinced the idea will see the light of day. The question is one of scale and timing, says Herbert Behrstock, chief of the East Asia and Pacific division at UNDP.

Still, its size and complexity make some question its feasibility. "Multinational deals are almost impossible to administer," says a Western diplomat who watches the Tumen River Area Development Programme for his government. "Take the Saint Lawrence Seaway project in Canada (a facility jointly operated by the United States and Canada) as an example. Look at the original claims of how it would improve lives, but it has been a huge failure and cost $8 billion. The UNDP project is even more difficult."

Indeed, naysayers are quick to point to the difficulties that lie ahead. But the programme's potential for success must also be measured in relation to where these countries were two years ago and what has already happened. When TRADP was conceived in 1991, South Korea and China had no relations, Mongolia was still communist, North Korea had not opened at all and neither Koreas had yet joined the United Nations.

In the last two years national teams from the six-member countries have met formally twice, once in February 1992 in Seoul and again in Beijing last October. UNDP has committed $3.5 million for feasibility studies and the Finnish government has recently provided $1 million specifically for forestry research and for studying a land bridge concept to Europe.

The next crucial step will be completing a number of studies now under way and confirming government interest to proceed. Investment would then be sought from multinational banks and corporations, bilateral aid agencies and private banks.

"We are now drafting an investment prospectus and finalizing international agreements," says Mr. Whalen, the UNDP programme manager. "We are also contacting potential investors and preparing master plans for transportation and telecommunications development." To improve communications, UNDP is planning a microwave-fiberoptic telecommunications system in the area.

As TRADP moves from the theoretical to the practical, more attention is being placed on the environment. Long decades of isolation have preserved the area's untouched beauty and abundant wildlife. With prodding from the Russian delegates, the environmental issue, a major concern of UNDP in all its programmes, has become firmly etched into the agenda.

"Environmental studies should be done before Greenpeace takes out a full-page advertisement in *The New York Times* saying, 'Stop the Tumen development before it destroys the last wilderness frontier,'" warns Mr. Levin.

Overall a lot of work remains. But while the visionaries continue to dream and the sceptics continue to doubt, the process has already contributed to peace and cooperation in this unimposing corner of Asia.

To critics who see TRADP as too ambitious for what is now a sleepy area, Mr. Whalen reminds us that "when Hong Kong was to be established by the British, Lord Palmerston, the foreign minister, said: 'Why do we need this barren rock?'" ■

Holly Ornstein Carter is a freelance journalist based in Seoul.

"This was a way of life across the Great Turtle Island [America], and freedom with respect was everywhere. Our leaders were instructed to be men with vision, to make every decision on behalf of the seventh generation to come, to have compassion and love for those generations as yet unborn.

"We were instructed to give thanks for all that sustains us, and so created great ceremonies of thanksgiving for the life-giving forces of the natural world. And we knew that as long as we gave thanks, life would continue."

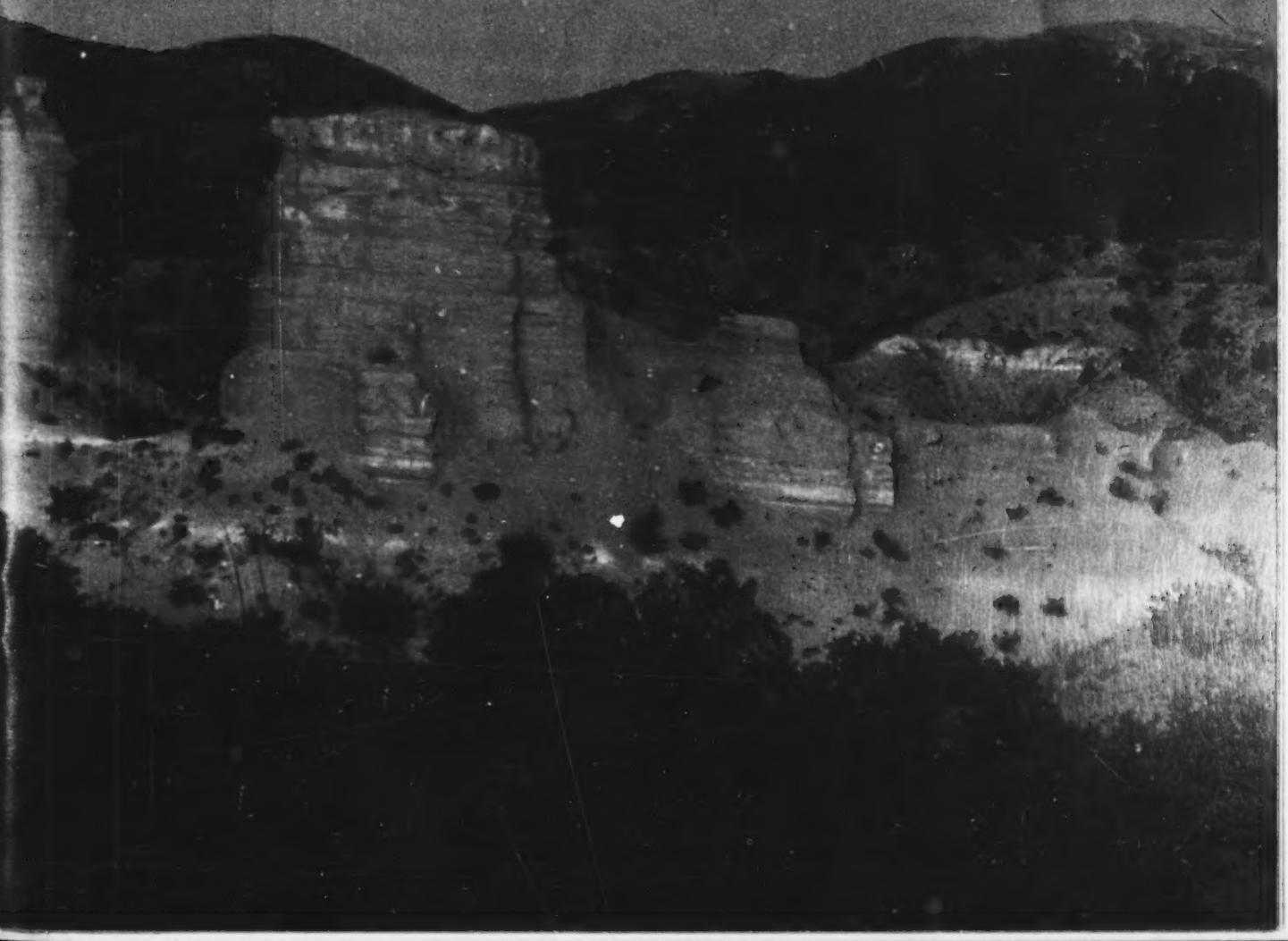
—Oren Lyons-Hanhsonnonsia, Faith Keeper of the Onondaga, from an address to the General Assembly of the United Nations, 10 December 1992

THE INTERNATIONAL YEAR OF THE WORLD'S INDIGENOUS PEOPLE: "FIRST NATIONS" SPEAK OUT

To launch the International Year, indigenous spokespersons from around the world addressed the General Assembly on issues ranging from human rights to caring for the environment. They may hold secrets for a sustainable future. But is anyone listening?

By James Walls

United Nations, New York -- On 9-10 December 1992, the United Nations hosted hundreds of representatives of the world's indigenous peoples. They constituted one of the most diverse cultural assemblages ever seen in a setting famed for its human variety. They journeyed here from all regions of the world to participate in ceremonies inaugurating 1993 as the



International Year of the World's Indigenous People.

The Year is the outcome of a decade of United Nations work with indigenous peoples that focused primarily on violations of their human rights. Yet every aspect of the lives of the indigenous – their detailed knowledge, their technical skills, their reverence toward nature and the environment –is altering the way we view the world and challenging deeply-rooted assumptions about "progress" and "development."

For many indigenous spokespersons, the UN celebration was a pivotal event in a relationship with the world body that extends back 40 years. "It is both a climax and a new beginning," said Pauline Tangiora, visiting New York on behalf of the Maori peoples of New Zealand. She is hopeful that 1993 will "bring solutions to many issues the indigenous face."

Interest by the United Nations in indigenous groups began in 1953, when the International Labour Organisation (ILO) launched a study on the persistent violations of their human rights. In 1957, the ILO put forth its Convention 107 calling for protection of these rights.

In the intervening years, attention to indigenous peoples has expanded to take in other issues. Great interest is today evident in their close relationship with nature, as it occurs in the immense variety of their natural environments. The modern world is finding that indigenous peoples have their own solutions to problems they face, and that these often constitute important additions to humankind's stock of knowledge and techniques. Most of the 7,000 natural compou..ds used in modern medicine, for example, have been employed by traditional healers for centuries.

But sadly many of these ancient cultures have been disrupted – often in the name of development – and consideration is turning to the services that they now sorely lack – in health, education, housing, access to clean water, energy supplies and adequate waste disposal systems.

The challenges posed by indigenous peoples to the world community could be heard as the International Year was officially inaugurated and 20 indigenous spokespersons addressed the General Assembly. They were also given voice in quiet conversations in the corridors of the United Nations Secretariat.

"We must have our own schools," said Rosa Ju, an Aymará from the windswept highlands of Bolivia. "Our children must not forget our ancient traditions."

"We must follow our own way," said Bimal Bhikkhu, a Buddhist monk, speaking for the Chakma people of the forested Chittagong Hills of Bangladesh. "We must do so even though our dominant culture has other ways in view."

"We have to exercise political autonomy – in an expansion of the concept of democracy," said Luis Macas, a Quechua speaker from Ecuador, a descendant of the peoples who long ago built the great Inca civilization.

"We must see an end to pressures for assimilation," said Giichi Nomura, an Ainu from the island of Hokkaido in northern Japan.

"We must have conditions that will enable us to recover the integrity of our cultures, protect our ways of life, and create environments in which our cultures will flourish," said Moringe Parkipuny, a Maasai from Tanzania.

These statements contained within them implications of enormous transformations to come. The Maori Pauline Tangiora put it this way, "Yes, indeed, I guess you could say that we indigenous peoples are on the verge of turning it all upside down."

Who are the indigenous?

The Worldwatch Institute, an independent research institute in Washington, DC, has pointed out that in addition to their skills in maintaining their natural habitats, the indigenous are also "the keepers of human variety." Indeed, their very variety makes them difficult to define. In a December 1992 Worldwatch Paper, "Guardians of the Land: Indigenous Peoples and the Health of the Earth," Alan Thein Durning had this to say about them:

"Measured by spoken languages – the single best indicator of distinct cultures because each language implicitly encapsulates a unique view of the universe – all the world's peoples belong to 6,000 cultures; 4,000 to 5,000 of these are indigenous ones. Of the 5.5 billion humans on the planet, roughly 200 to 600 million are indigenous people. (These ranges are wide because of varying definitions of 'indigenous'; the higher figures include ethnic nations that lack political autonomy, such as Tibetans, Kurds and Zulus, while the lower figures count only smaller, subnational societies.)"

At the core of whatever definition is accepted – and the United Nations accepts

"If you came only to help me, then you can go back home. But if you consider my struggle as part of your own survival, then perhaps we can work together."

-an Aboriginal woman from Australia

one that numbers the indigenous at about 300 million – is the notion of peoples who have resisted assimilation, who have struggled to maintain the integrity of their cultures and ancient ways of life. A recent advisory report to the UN Development Programme (UNDP) by the Inter-American Indigenous Institute offered this description:

"Scattered across the face of the planet are numerous human groups who descend from ancient societies.... These ethnic groups have succeeded in resisting persistent, and often centuries-old, attempts at extermination or assimilation by the sectors which have assumed the representation or the control of the new states.

"Thus they preserve their cultural traditions, lifestyles, world view, values and languages, which differentiate them from other sectors.... They are defined as Indians, indigenous peoples, aborigines, autochthonous peoples, natives or 'first nations.'"

The indigenous are found today in forests, mountains and deserts, on arid plains and in the icy habitat of the Arctic north. They are found, too, in the cities and universities of the industrial world. Yet their societies tend to be centred in the marginal and desolate terrains to which they were driven by those who conquered them. The conditions they live in often send a tragic message: that indigenous peoples are powerless.

"But powerless no more," said Luis Macas, the Quechua speaker from Ecuador. "Today, at last, we have come together. Today we are organized. Indigenous peoples from all over the world are for the first time working together for their common goals."

The United Nations and indigenous peoples

"The task of bringing us together, making us a force in the world, was carried out by the Working Group," Luis Macas said. He was referring to the Working Group on Indigenous Populations, set up as part of the UN Commission for Human Rights in Geneva in 1982. Its mandate is to review the policies of governments toward these groups and to prepare a draft of a Universal Declaration of the Rights of Indigenous People. The five-member team felt that any such declaration would be vacuous without input from indigenous peoples themselves. By 1985, the Working Group had persuaded the General Assembly to establish a Voluntary Fund for Indigenous Populations, which enabled indigenous representatives from all parts of the world to travel to Geneva to report, testify, review and debate the issues involved.

The International Year is expected to close with a finalized version of a declaration, which will be presented to the UN General Assembly for adoption. The declaration is likely to address a number of potentially controversial issues, including the right of the indigenous to possess ancestral lands or receive just compensation for them, the right to establish autonomous governments and to receive international arbitration of conflicts. But whatever the declaration ultimately says may turn out to be less important than the machinery that developed in the process. Seven years of annual consultations have resulted in what the Native American Onondaga Chief, Oren Lyons-Haudenosaunee, called an "international assembly of the indigenous," composed of individuals who are at home in international fora and who speak eloquently for forgotten cultures in all parts of the world.

Once they began their travels, these spokespersons for the world's "first nations" could not be confined to an annual appearance in Geneva. They became familiar figures on the international stage. They were present at the Global Conference of Spiritual and Parliamentary Leaders on Human Survival, held in Moscow in January 1990. In a traditional village setting on the outskirts of Rio de Janeiro, constructed with UNDP support, indigenous peoples held their own meeting in connection with the UN Conference on Environment and Development. And at the World Uranium Hearing, held last year in Salzburg, Austria, indigenous "witnesses" from all parts of the world presented testimony on the environmental disasters resulting from the mining of uranium on ancestral lands.

The keepers of nature

Just over three years ago, the role of the indigenous in matters of global ecology was brought before the international community in a statement by the indigenous delegation at the Moscow conference on human survival. The statement, read by José Lucero, a Santa Clara Pueblo Indian from the southwestern United States, said in part:

"Only indigenous peoples have demonstrated efficiency in taking care of the Earth. Indigenous cultures have provided the only historical models of sustainable development and must become primary decision makers in the future of sustainable development. A benevolent development must be defined as a process which benefits all, indigenous peoples included."

"A little thought would convince anyone of the truth of these words," said Mr. Parkipuny, who was then a member of the Tanzanian Parliament and who was present both in Moscow in 1990 and at the United Nations in December 1992. "Civilizations invariably go under. In contrast, indigenous cultures go on and on, some for thousands of years, or for as long as they have been visible in the eye of history. This is explained by the simple fact that indigenous societies maintain a sustainable relation with the Earth, and the great civilizations do not.

"That is why indigenous peoples are linked to the issue of the environment," Mr. Parkipuny said. "The mainstream industrial world can see us maintaining the most difficult environments in permanent working condition. Whether in the tropical forests, in the frozen north, or in the semi-arid plains of East Africa where I live."

David Kopenawan, a Yanomami of the Amazon forest, was in complete agreement. Mr. Kopenawan belongs to one of the latest indigenous cultures to come into contact with the modern world. "We have cared for

the forest for as long as we can remember," he said. "Then suddenly people appeared from the cities who had no idea of how to live in the forest. All they can think to do is cut it down."

Beyond their enormous knowledge of their natural environments, "indigenous peoples have consciously increased the biological diversity they inherited from nature," writes Worldwatch author Alan Durning. They have done so, he says, "not by creating new species, but by fostering genetic diversity within species – an achievement for which the world's ascendant cultures are deeply indebted to them."

As an illustration, Mr. Durning describes the practices of the Liberian Kpelle people, who "foster diversity for the security it produces; they carefully match crop strains with the slope, soil conditions and sunlight conditions on each patch of their land. Women of the forest-dwelling Kpelle sow more than 100 varieties of rice, making their fields a jigsaw puzzle of genetic diversity."

Such practices are so commonplace among indigenous cultivators that "native peoples are and have been the stewards of 99 per cent of the world's genetic resources," the International Society for Ethnobiology stated in 1988.

Other advanced technologies are used by indigenous peoples all over the world, and are equally impressive. The United Nations Conference on Desertification carried out a case study in the Thar desert of India. It found that the cultivators of the jujube trees used everything the trees produced – fruit, buds, blossoms, bark, leaves and wood. They also cultivated species of plants and animals that lived in symbiosis with the trees.

Tuareg pastoralists, who have lived in the arid Sahel for more than a thousand years, developed a complex set of strategies for dealing with drought. When the rains ceased, as they do regularly in the Sahel, the Tuareg drove their animals southward into subhumid regions where, according to ancient agreements, they exchanged the fertilizer produced by their livestock for the right to graze on the post-harvest stubble. The destruction of this system – caused in part by the imposition of national boundaries irrespective of tribal lines – has contributed to desertification of the Sahel.

The modern world has begun to comprehend the sophisticated skills and techniques often involved in indigenous technologies. They have also awakened to the understanding that indigenous environments, tropical forests especially, are treasure troves for botanicals. Coupled with this is the realization that the industrial world does not know what most of these botanicals are, and that it could end up destroying them before it ever finds out.

This neglect was pointed out years ago by Nicole Maxwell, American author of the book, *Witch Doctor's Apprentice*, who spent much of her life living with native societies in the jungles of Ecuador and Peru. "I was amazed at the number of curative plants that the Jívaro knew how to use," she said. "But I could never get any pharmaceutical houses interested in them. They couldn't see any profit in them because you cannot patent a natural substance. I remember one young Jívaro man who had suffered a 10-inch machete-slash that reached to the bone of his arm. He wrapped the wound tightly, binding it with the leaf of a certain large-leafed shrub. The wound healed without leaving even a trace of a scar."

Much can be gleaned from indigenous peoples in the arts they have developed over almost endless time. But according to Arvol Looking Horse, of the Lakota Sioux living in the north-central United States, "the modern fixation on practical results is exactly what is wrong." He adds, "If that is the point of view, just getting results, the industrial world will miss what indigenous peoples are trying to tell them." For Looking Horse the heart of sustainable development lay not in technologies but in attitudes, in a certain philosophy of life that was echoed in a statement read by the indigenous delegations at the conference in Moscow:

"The great powers of the universe are now turning against us when rain, the gift of life that waters the Earth, is now contaminating and killing the gardens and trees of life.

"Development does little good for indigenous peoples. Look at the woods around us. They seem empty, but there are people living in them. The White Man will cut the trees and sell them. He says this is development. Maybe to him it is, but what of the people in the forests? They will slowly die when the forests are destroyed."

– François Munyeshuli, of the Batwa peoples in Rwanda, speaking at the Earth Summit in Rio de Janeiro

"Our eldest brother, the sun, whom we celebrate and cherish as he brings the dawn of each new day, now begins to throw rays of cancerous light, and new diseases stalk the earth."

Indigenous speakers from many lands were saying similar things when they addressed the General Assembly last December. Repeatedly, they referred to the spirit of nature that infused all natural environments. They spoke of the sky, rivers, sun and moon as if they were living things.

As global ecological problems become more menacing, the importance of such attitudes is increasingly being recognized. Institutions such as UNDP are re-examining the criteria which have defined development for nearly half a century. In many instances, UNDP is looking to indigenous peoples – in Bolivia, in the Amazon Basin, and in the Chocó jungle of Colombia – to seek ways of preserving natural habitats and to make development sustainable. Many of these projects – which will be reported on in CHOICES as they progress – are based on indigenous peoples' own assessments of their needs. They aim to go beyond "popular participation," by keeping activities under the direction of the indigenous themselves. It opens a new chapter in the great panorama of development. It may be the most interesting chapter to date. ■

James Walls is a freelance writer living in New York City. He is the author of Land, Man and Sand: Desertification and its Solution *(Macmillan Publishers, 1980).*

PROTECTING BOLIVIA'S FIRST PEOPLES

A new US$51 million project has been launched by the Government of Bolivia and UNDP to promote sustainable development and the cultural and physical preservation of indigenous peoples in the Oriente, Chaco and Amazon regions. The eight-year effort will focus on Bolivia's indigenous population of more than 190,000, which is comprised of 29 different ethnic groups.

Many of these groups, which vary in size from 14 remaining survivors to 50,000, are dangerously near extinction. They do not currently own any of the 931,000 square kilometres of land on which they live, nor do they have access to adequate health and education services.

"The programme places enormous value on the cultural diversity and social and historical identity of Bolivia's indigenous peoples," said Gonzalo Perez del Castillo, former UNDP resident representative in Bolivia. "These people are a living legacy for the future. No one can afford to stand idly by and watch them disappear."

There are six main components to the programme, each tailored to specific requests made by the indigenous themselves. First, the territories of the various peoples will be identified and laws drawn up to ensure collective community rights to each territory. Second, an education system, based on linguistic and cultural diversity, will be developed for each ethnic community. Third, water pumps, latrines, electricity and emergency medical supplies will be provided. Activities will be developed to integrate modern health practices into traditional systems. Fourth, projects will be devised to promote the sustainable use of tropical forests, based on conservation methods already used by the indigenous. Fifth, a legal and political framework will be designed to ensure participation of indigenous peoples in national development planning. Lastly, economic activities, such as the production and marketing of crafts and agricultural products, will be supported.

UNDP's role was to formulate the complex programme, and now to assist the government in managing it and to raise additional financial resources. Pledges totalling $17 million have so far been made by several donors, including the International Fund for Agricultural Development, the World Food Programme, Sweden, the United States and the European Community. ■

ROSA JU:

"We must have our own schools, our children must not forget our ancient traditions."

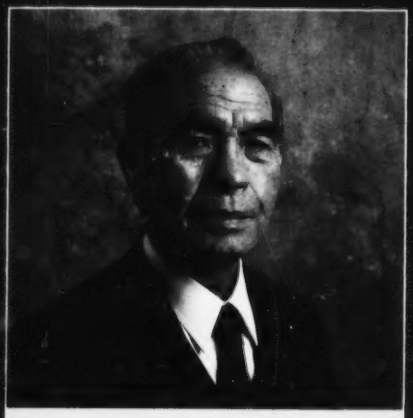
BIMAL BHIKKHU:

"We must follow our own way, even though our dominant culture has other ways in view."

LUIS MACAS:

"We have to exercise political autonomy – in an expansion of the concept of democracy."

Portraits by Steven Begleiter
Background by Nick Nichols / Magnum



GIICHI NOMURA:
"We must see an end to pressures for assimilation."

ARVOL LOOKING HORSE:
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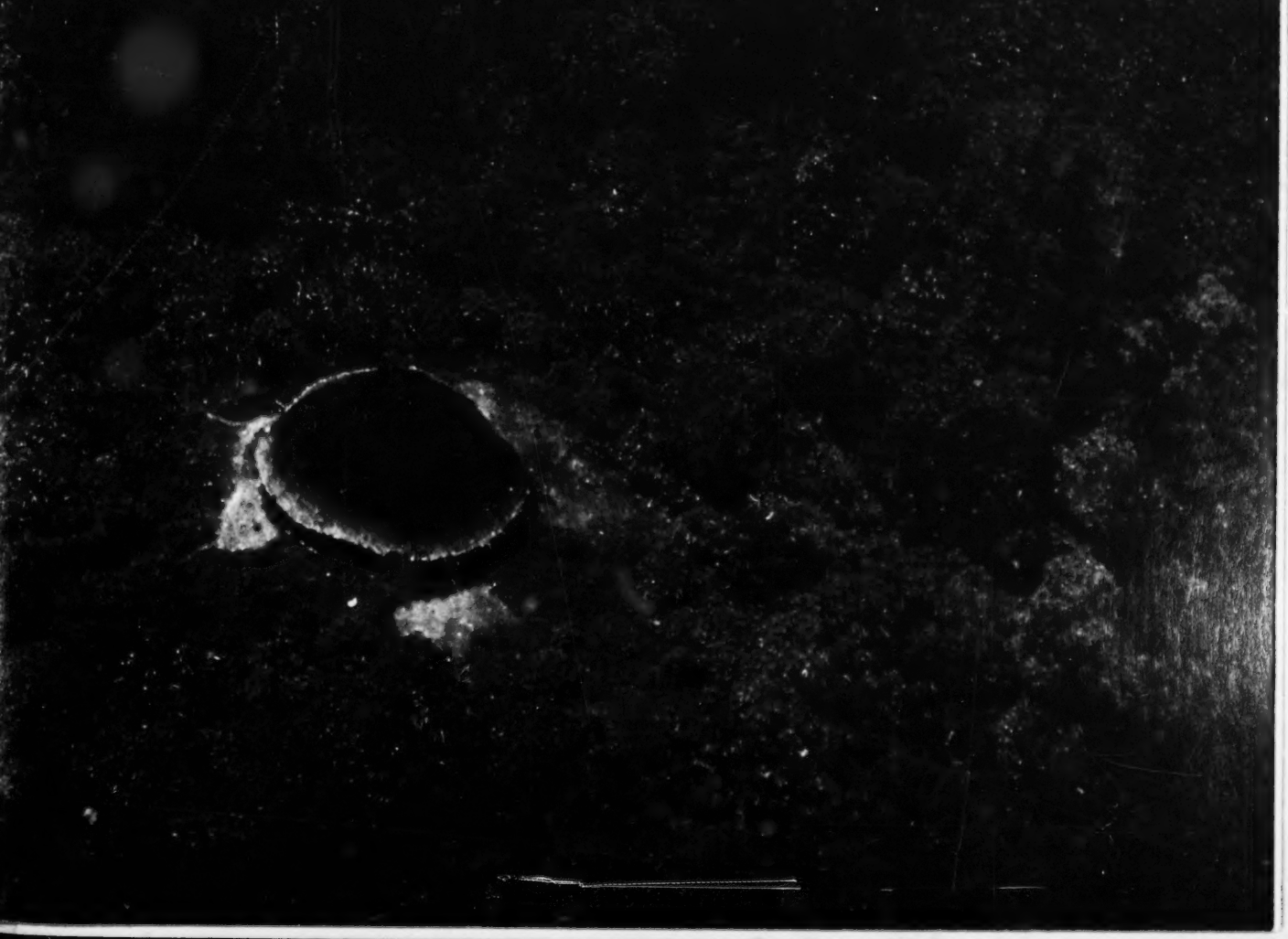


Living With the Wild

If preservation of Africa's wildlife is to succeed, local communities must have a stake in its survival.

By Jonathan S. Adams

Africa's wildlife is under siege. Poverty, drought and diminishing arable land have forced animal populations into tiny islands of protected habitat, where they remain vulnerable to hunting and disease. Hoping to save them, conservationists have undertaken desperate rescue operations. While vital, these have not addressed the more fundamental issues of resource use, self-determination of local communities, and rural development. And while traditional approaches such as establishing parks and putting armed rangers in the field are important, they are no longer sufficient.

The success of conservation in Africa depends on the active involvement of rural people, who have in the past been blamed for its failures. Governments must seek to return custodianship of wildlife to the people who share their land with Africa's animals. For as long as conservation operates on the notion that saving wild animals means keeping them as far away from people as possible, it will become less and less relevant to modern Africans. Parks and other protected areas will eventually be overrun by the need for land unless the parks serve – or at least are not completely inimical to – the needs of local populations. Integrating parks into the social, aesthetic, and economic life of the community will mean recognizing that conservation and development, long at loggerheads, are in reality parts of a single process.

Two innovative projects, one in Zambia and one in Zimbabwe, are putting this abstract notion to the test. Both are based on the belief that rural communities in Africa are fully capable of taking active, well-planned steps to protect their environment. Current conditions for wildlife conservation could hardly be worse. In Zambia, for example, uncontrolled poaching during the 1970s and much of the 1980s killed nearly 95 per cent of the country's black rhinos and over 50 per cent of its elephants. Zambia tried to solve the problem in the usual way, by stationing park rangers and game scouts in camps along the boundaries of national parks. Naturally, this provoked conflicts between residents and park authorities. Villagers no longer regarded wildlife as a resource but only as a liability – someone else's property to be tolerated, stolen or destroyed.

African villagers watched passively as commercial poaching escalated in the 1970s. In situations where poachers gave them small gifts or shared game meat, many villagers actively supported them against park rangers. The harder Zambia's National Parks and Wildlife Service (NPWS) tried to enforce game laws, the less cooperation it received. Forced to recast its methods, NPWS began to examine conservation in the context of human needs. It became convinced that local residents must regain some level of ownership over wildlife in order to have a stake in its survival.

Zambian authorities thus designed a project called the Administrative Management Design for Game Management Areas (ADMADE), to provide direct training and employment in wildlife management for local villagers. The programme uses tourist revenues to cover costs as well as the development needs of the community. Entry fees to game parks have amounted to more than US$500,000 a year in the 10 areas where ADMADE is active. It treats conservation as a business, and villages as economic entities.

Villagers were anxious to prove that they could police the designated wildlife areas more effectively than government scouts, who usually came from other parts of the country. The skill of village scouts in arresting poachers soon surpassed that of the NPWS regulars. Their intimate knowledge of tribal lands helped them capture illegal hunters by anticipating where poachers would camp and the routes they would use. Poaching rates in the Lupande game management area, which borders south Luangwa Park, northeast of the capital, have decreased at least tenfold since ADMADE began in 1987. Lupande, which spans 400 square kilometres, is rich in wildlife such as elephants, leopards and black rhinos.

This project, and others like it, show promise because wildlife management is one of the most productive uses of land in Africa, particularly in semi-arid areas. Mass wildlife tourism in Kenya, for example, produces $100 per hectare, while more exclusive tourism brings in $50 per hectare. Hunting generates $10 per hectare, double that of commercial hunting

for meat and hides. In contrast, cattle ranching for beef on semi-arid pasture is often a drain on the economy, costing as much as $5 per hectare.

Far from being a last resort in marginal areas, wildlife will outcompete domestic livestock production, in terms of dollars per hectare, on all but the most fertile lands. But the benefits flow only when people are encouraged to use the animals in every imaginable way, from tourism to tanneries. Conservation programmes that focus entirely on preventing such use may in the long run contribute to a decline in Africa's wildlife.

The timeliness of new approaches to conservation is particularly clear in Zimbabwe, where by the year 2000 nearly half of the country will be raising its cash from wildlife. Roughly 45 per cent of Zimbabwe is communally owned and is home to two-thirds of the country's people. Often located on the boundaries of national parks and safari areas, communal lands also contain much of the country's wildlife. Under a unique law, rural communities in Zimbabwe's communal areas can assume responsibility for the conservation and use of wild animals. Several other sub-Saharan countries are now also experimenting with a decentralized approach to wildlife management, including Botswana, Cameroon, Malawi and Tanzania.

Illustration by Twins Seven Seven

In the mid-1980s, Zimbabwean conservationists came up with a plan to enable rural people to take control of their own resources. Called CAMPFIRE – Communal Areas Management Programme for Indigenous Resources – the plan is based on two premises: first, that people living with wildlife pay the price for conservation through threat of injury by dangerous animals and damage to crops, so must reap any benefits; and second, that these people have the collective capacity to manage their own resources. CAMPFIRE envisions a system of natural resource cooperatives with essentially the same rights and obligations as private owners of commercial ranches, with all residents of a community as shareholders.

The Nyaminyami District, in the Zambezi Valley, was the first area to become part of CAMPFIRE. One of Zimbabwe's poorest districts, with a hot, dry climate and shallow soils, Nyaminyami's greatest resource is its wildlife, which includes large populations of elephants, buffaloes and impalas, and smaller numbers of other mammals and birds. Under CAMPFIRE, Nyaminyami created a wildlife management trust that actively involved local people in a variety of conservation programmes. In its first year of operation, the trust brought in a profit of about $30,000 from safari hunting concessions and the sale of meat and skins from animals killed while raiding crops or domestic livestock. With additional support from a local foundation, The Zimbabwe Trust, Nyaminyami generated over $125,000 from wildlife management activities which was distributed to district residents. Each of the district's households received roughly $50 – equivalent to nearly a quarter of their average annual income.

CAMPFIRE faces serious obstacles, among them bureaucratic infighting and lack of complete representation at the village level. And these growing pains illustrate how difficult it is to break the mould of traditional conservation. Zimbabwe has all the tools it needs in hand: a policy of decentralization, suitable legislation, a resolute and well-run Department of National Parks, talented conservationists, and a Ministry of Natural Resources and Tourism with the courage to experiment in genuine collaboration with district councils in wildlife management. Moreover, rural people are beginning to assume responsibility for local resources with carefully orchestrated support from a coalition of non-governmental organizations, including the Zimbabwe Trust, World Wildlife Fund, and the University of Harare's Centre for Applied Social Sciences. With all this working in its favour, CAMPFIRE still struggles to overcome entrenched interests and patterns of behaviour.

The integration of conservation and development, and the return of control over natural resources to rural communities, has begun in earnest across Africa: from Zambia and Zimbabwe in the south to Gabon in the west to Tanzania in the east. As with any break from the past, these efforts have proceeded in fits and starts. Failures may outnumber successes for some time to come, but there is simply no other choice. Conservation will either contribute to solving the problems of the rural poor who live day-to-day with wild animals, or those animals will disappear. ■

Jonathan S. Adams is the author, with Thomas McShane, of The Myth of Wild Africa: Conservation Without Illusion *(W.W. Norton, October 1992), from which this article is based. He has worked on conservation programmes in Africa, Latin America and Asia.*

CAN AFRICA AFFORD A GREEN REVOLUTION?

FREDERICK BROWN

With what could be the worst famine in 50 years now gnawing at many African countries, it may strike some as incongruous to discuss prospects for bringing the Green Revolution to that continent.

Yet that is precisely the kind of talk one is likely to hear these days from the man whose high-yielding varieties of wheat sparked the Green Revolution in countries such as India and Pakistan in the 1960s. In a recent Washington interview, Norman Borlaug conceded the situation now facing many African countries is bleak indeed. But he insists there is still room for hope – especially in the second tier of countries below the Sahara.

Whether these countries succeed, he says, will depend on whether their leaders adopt certain badly needed policy reforms. Also, on whether they get the kind of help they need from institutions such as the World Bank and the International Monetary Fund.

Back in the 1960s, Dr. Borlaug and his colleagues at CIMMYT, the maize and wheat improvement centre in Mexico, developed the high-yielding varieties of wheat that brought the Green Revolution to those formerly starvation-prone Asian countries. In 1970, Dr. Borlaug was awarded the Nobel Peace Prize in recognition of his lifelong efforts to combat hunger around the world. Now 79, he is president of the Sasakawa Africa Association (SAA), founded in 1986 by Japanese shipbuilding magnate Ryoichi Sasakawa. Its goal is to find long-range answers to the problems plaguing African agriculture. Today it has ongoing projects in Benin, Ghana, Nigeria, Tanzania, Togo, Zambia and Zimbabwe.

SAA coordinates its work with former US President Jimmy Carter's Global 2000, Inc., and with the Paris-based Centre for Applied Studies in International Negotiations, which tries to reduce political instability and the difficulties it creates for African agriculture.

Drawing on the resources of international agricultural research centres like CIMMYT, SAA workers provide participating farmers with a package of recommendations on the best seeds, the best dates and rates of planting, the best weed control and the best fertilizers to use for a given location. The main emphasis is on maize and sorghum, two of Africa's major food staples.

To date, a total of 150,000 African farmers have been reached by SAA/Global 2000. According to Dr. Borlaug, participating farmers have demonstrated that, barring a major drought, if the proper seeds, methods and fertilizers are used, production can be doubled, tripled or quadrupled. Furthermore, this can be achieved, he says, even with the most rudimentary equipment. Most farms in sub-Saharan Africa are smaller than one-half hectare, and most farmers have only small hand tools such as hoes and machetes to work with. Even with such handicaps, surveys show crop yields for SAA/Global 2000 projects have increased on average 2.5 times, though yield increases five times previous averages are not uncommon.

Dr. Borlaug says results have been promising in Ghana and Tanzania – two countries he hopes can lead the way for other African countries. He was particularly impressed with efforts now under way in Ghana to introduce a new high-lysine corn that many scientists believe could be a major weapon against malnutrition in countries where maize is a food staple.

Within a year, if the right policies are enacted, both Ghana and Tanzania could be poised for the same kind of breakthroughs experienced 30 years ago in India and Pakistan.

Says Dr. Borlaug: "We are almost to the point where we can say to the leaders of these countries, 'This is what is possible, but this is what must be done in order to achieve it.'" But success will only come if farmers have the right fertilizer available and if they can obtain credit to buy it. Furthermore, he says, crop prices must be maintained at an attractive level so farmers will have an incentive to produce.

"If the price of the harvest is maintained at some level approaching the international price, this thing can take off just like it did in India and Pakistan," he says.

Dr. Borlaug acknowledges there are differences as well as similarities between the situations that faced India and Pakistan in the 1960s and those that face African countries today. The South Asian countries started with a large bank of trained agricultural scientists – something Africa doesn't possess. On the other

continued on page 26

WITH GROWING FOOD SECURITY PROBLEMS AND CONTINUING ADVANCES IN BIOTECHNOLOGY, MANY AFRICAN COUNTRIES ARE POISED FOR WHAT MAY BECOME A SECOND "GREEN REVOLUTION." BUT IS IT THE RIGHT STRATEGY? IN THE FOLLOWING ESSAYS, TWO OPPOSING SIDES OF THE ISSUE ARE PRESENTED, IN A DEBATE THAT REFUSES TO SUBSIDE.

VANDANA SHIVA

In the 1950s, as Indian scientists and policy-makers were developing self-reliant and ecological alternatives for the regeneration of agriculture in India, another vision of agricultural transformation was taking shape at American foundations and aid agencies. The vision was based on the increased use of credit and purchased inputs such as chemical fertilizers and pesticides. It was based not on self-reliance, but dependence; not on diversity but uniformity.

It has often been argued that the Green Revolution strategy was the only one available for increasing food supplies. International agencies and Third World governments had no option, we are told. Yet the inevitability of the Green Revolution option was built on neglecting other avenues for increasing food production that are more ecological, such as improving mixed cropping systems, the quality of indigenous seeds and efficiency in the use of local resources.

My own work on the conservation of indigenous genetic resources has shown that native varieties and traditional farming systems are often higher yielding than the Green Revolution package. The only difference is that they give multiple yields of diverse crops.

Contrary to popular opinion, the Green Revolution's reliance on seed-fertilizer technology is counter-productive when looked at from the viewpoint of resources. Indigenous varieties of both rice and wheat have been shown to have comparable yields to Green Revolution varieties and require substantially less water and fertilizer.

While an increase in productivity was the primary objective of the Green Revolution, productivity actually declined when looked at it terms of resources and energy. The main increase achieved in the early phases in Punjab in India was at the level of financial returns. In my opinion, the main motive for the Green Revolution was profits – profits for agribusiness and profits for farmers. Over the long term, however, as the demand for external inputs increased, it ultimately resulted in diminishing returns for farmers. In less than two decades, the Green Revolution has become financially and ecologically unviable. However it did succeed in the production of surpluses of specialized crops in a specific region for a short period of time, based on high inputs, high subsidies and high support prices. These subsidies and support prices have contributed in a big way to India's debt, and now the same strategy is being recommended for Africa.

The chemicals for the Green Revolution came from multinational companies and the credit from multilateral banks. Over time the reliance on chemicals kept increasing. In 1980-81, the consumption of chemical fertilizers in India was 5.5 million tonnes. By 1992 it had risen to 13.5 million tonnes.

The World Bank provided the credit to introduce this capital-intensive approach to agriculture, which cost over 11 billion rupees from 1966 to 1971, more than six times the amount allocated to agriculture by the Government of India during the previous five years. Most of the money went to pay for imported chemicals and seeds and to provide subsidies and credit. The result was debt and a balance of payments crisis. This crisis is now being used by the World Bank as justification for a structural adjustment programme,

continued on page 27

hand, extension services in the two Asian countries were very weak in the days before the Green Revolution, and were generally regarded with some contempt by scientists.

One major difference between Africa's problems and those faced by India and Pakistan is the dearth of livestock in Africa. This is the result of trypanosomiasis, a disease commonly known as sleeping sickness, which has decimated livestock herds in much of the continent.

Deprived of draft animals, most African farmers have been unable to move beyond their reliance on small hand tools and thus have missed an important first step in the development process. What's more, they have also had to do without the natural fertilizer and fuel that animals provide farmers in other parts of the world.

Making up for that lack of natural fertilizer is crucial, says Dr. Borlaug. Loss of topsoil from deforestation and erosion is an especially serious problem in Africa. He insists any solution to Africa's agricultural problems must include a large input of chemical fertilizer — a position that puts him in conflict with some environmentalists.

Because of Africa's shortage of farm animals, Dr. Borlaug dismisses those who oppose the use of chemical fertilizers as dreamers. "It's not so simple as it looks to many of these people of great wisdom who sit in academia pontificating about the ills of Africa," he says.

For the same reason, Dr. Borlaug sometimes finds himself at odds with the World Bank, which has been generally opposed to subsidies of any kind. The Nobel laureate says granting subsidies to city dwellers to buy food is usually not a good idea, but fertilizer subsidies are another matter since they greatly increase food production.

Such subsidies, he adds, need not be a giveaway. They can be provided in the form of loans to be repaid after the harvest is sold. Dr. Borlaug says the repayment record for projects his organization is involved in has been excellent. In Tanzania, for example, 90 per cent of loans made to SAA participants in the 1989-90 season were repaid.

Transforming African agriculture is going to be painfully slow, says Dr. Borlaug. Africa's situation differs in another respect from that faced in India, Pakistan and Bangladesh in the 1950s and 1960s. In those countries, because there was little new area for cultivation, the only answer was to make the available land produce more food.

By contrast, there is plenty of new land to cultivate in Africa, but the means for developing it are limited. Then too, there is an appalling lack of infrastructure, including roads, in much of Africa, which makes moving produce from the farms to the markets very difficult.

As for the ongoing drought in Africa, Dr. Borlaug believes that it is part of a recurring cycle of global climate change. Thanks to improvements in technology, he says, the negative effects of such events are gradually being mitigated — one example being the 1930s drought that turned much of America's Midwest into a dust bowl. In 1988, another severe drought in the same region had far less impact due to changes in technology.

African farmers must also learn similar "tricks of survival," he says. For example, one lesson that paid off in India and Pakistan was that of maintaining adequate reserves of grain in case of crop failure. While some economists contend such reserves tie up capital that could be invested in badly needed infrastructure, Dr. Borlaug argues the experience of India and Pakistan proves that building up such reserves is prudent.

Food security is only one of the dividends. By holding back part of their grain after a good harvest and releasing it gradually, Dr. Borlaug says farmers can guard against falling prices that can reduce or even wipe out their earnings. This is a lesson he says Indian and Pakistani farmers learned early.

Because lack of crop storage facilities is a serious problem in Africa, he says greater efforts must go into developing low cost storage using cheap, local materials. SAA/Global 2000 already has one such project under way in Ghana.

Is a Green Revolution what is needed in Africa? In recent years it has become fashionable to point out its shortcomings. Among the complaints: that Green Revolution technologies more often help richer farmers in developing countries, while encouraging over-reliance on chemical fertilizers. Another criticism is that it places too much emphasis on economic considerations at the expense of the environment.

Dr. Borlaug has responded to some of these criticisms by saying that they come from academicians who have never lived in developing countries.

On the question of who has benefited most from the Green Revolution, he says that in India most of the gains have been made by farmers working small, four- to six-acre farms who have seen their wheat yields increase by 300 to 400 per cent. But the biggest gains, he says, have been reaped by Indian consumers who now have access to more and cheaper food.

As a result of Green Revolution technology India's wheat production increased from an average of 10 million tonnes in the early 1960s to just under 50 million tonnes last year. That, Dr. Borlaug points out, represents 65 per cent of caloric intake for 300 million people.

Dr. Borlaug also strongly challenges critics from the environmental movement, dismissing the concerns they raise about agricultural chemicals as "hysteria." Where, he asks, is the evidence that chemicals have been dangerously infiltrating the world food supply as a result of pesticides, insecticides and herbicides? Are these chemicals, he asks, any more dangerous than the toxic and other harmful natural compounds that have been part of the human diet since the beginning of agriculture?

To those environmentalists who object to Dr. Borlaug's sweeping dismissal of their concerns, he voices a concern of his own: he argues that the greatest threat to the environment is not agricultural technology, but unrestrained population growth eating away at gains being made by science. ■

Frederick Brown, a former correspondent for Voice of America *in Africa, the Middle East and South Asia, is a freelance writer living in Silver Springs, Maryland.*

Lois Jensen / UNDP

GREEN REVOLUTION TECHNOLOGIES HAVE LED TO INCREASED YIELDS OF MAIZE IN GHANA.

CIMMYT Photo

NORMAN BORLAUG AND TRAINEES AT CIMMYT IN MEXICO.

Vandana Shiva continued

through which it is forcing a withdrawal of the very subsidies it had earlier introduced.

In line with the Bank's recommendations, the Government of India agreed to raise fertilizer prices by 30 per cent to reduce state expenditure on subsidies. However, after large-scale protests across the country, the price was increased by only 10 per cent in 1991. In August 1992, subsidies were eliminated entirely and fertilizer prices doubled overnight.

With subsidies removed, the Green Revolution loses its artificially maintained economic advantage and becomes a totally uneconomic proposition for capital-poor countries like those of Africa.

However, the most important reason for the non-sustainability of the Green Revolution is its ecological impact. Dr. Borlaug's high-yielding seed varieties were engineered for high uptake of fertilizer, and their higher water requirements lead to increased vulnerability to drought. Hence, they are totally inappropriate for drought-affected Africa. Risks of crop failure are also increased when locally-adapted seeds grown in mixed cropping systems are replaced by introduced varieties grown as monocultures. The destruction of biological diversity was a very significant impact of the Green Revolution in India. Genetic erosion will also be the consequence of the Green Revolution in Africa.

As Dr. Borlaug states, the focus of the Green Revolution in Africa is on maize and sorghum. Green Revolution maize has already increased Zimbabwe's vulnerability to drought. Local varieties of millet are more appropriate than high-yielding maize hybrids because they are more drought-tolerant, they store better, and they require fewer capital inputs. Groups such as ENDA (Environment and Development Action) have been successful in bringing half of Zimbabwe's farmers into the indigenous seed supply network as a drought-coping strategy.

In Ethiopia, the Plant Genetic Resources Centre is working with farmers to conserve genetic diversity and supply farmers with seeds that give good yields without requiring intensive inputs. The Green Revolution logic is the reverse – it erodes diversity, increases costs for farmers and magnifies ecological risks, especially in drought-prone environments. The drought- creating strategy of the Green Revolution is the last thing Africa needs.

There are lessons to be learned from the Green Revolution's most celebrated success – the Indian Punjab. Dr. Borlaug repeatedly refers to the Indian miracle. Paradoxically, after two decades of the Green Revolution, Punjab is neither a land of prosperity nor peace. It is a region riddled with discontent and violence. Instead of abundance, Punjab has been left with diseased soils, pest-infested crops, waterlogged deserts and indebted and discontented farmers.

Control over nature and people were essential elements of the Green Revolution strategy. Ecological breakdown in nature and political turmoil were the results. ■

Scientist and environmental activist Vandana Shiva is director of the Research Foundation for Science, Technology and Natural Resource Policy in Dehradun, India. She is the author of Staying Alive: Women, Ecology and Development *and* The Violence of the Green Revolution *(Third World Network, 1991).*

An Indian Institute's Breakthrough Vaccines

By Denise Barricklow

India's National Institute of Immunology is developing vaccines that could radically alter the lives of people in the developing world. On the horizon: a vaccine against pregnancy.

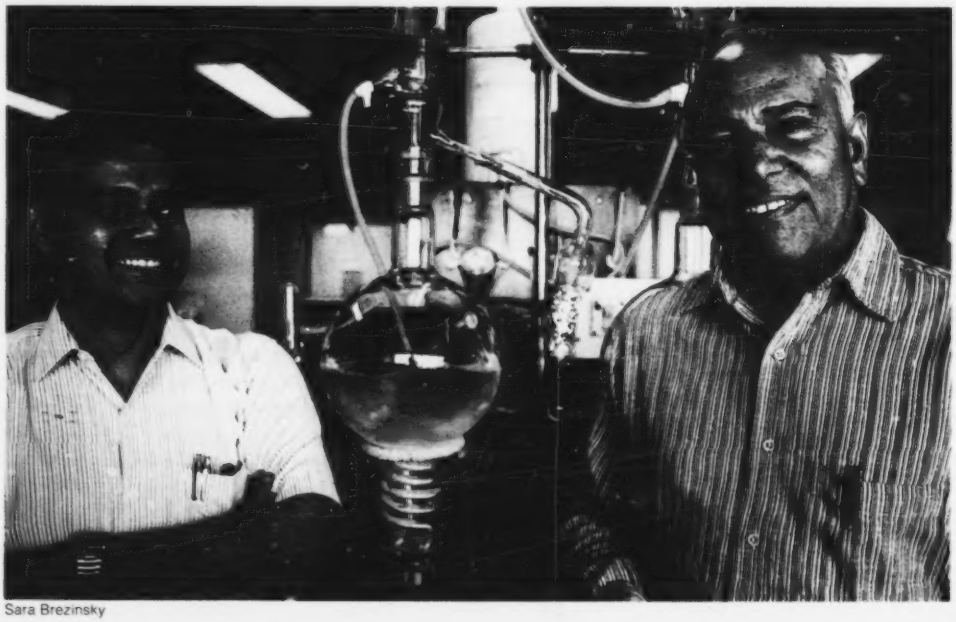
New Delhi – Developed in India, the world's first vaccine to prevent pregnancy promises to offer women more freedom than ever before.

While another three to six years will be needed before testing is completed and the vaccine becomes commercially available, experts in the field are already expressing optimism. "This is a very promising development for women around the world," says Rosemarie Thau, director of contraceptive development for the New York-based Population Council. "I think the vaccine would provide women with an excellent new choice for family planning."

Using a woman's own immune system to prevent pregnancy, the vaccine has proved effective for one year in tests conducted by New Delhi's National Institute of Immunology (NII). The NII is funded with grants from the Indian government, Canada's International Development Research Centre (IDRC) and the United Nations Development Programme (UNDP).

Reproductive immunologists in other countries, including Australia and the United States, have been working on similar birth control vaccines, but no other research is as advanced as the NII's. If perfected and mass distributed, the vaccine could have enormous implications, especially for women in the developing world.

"One of the big problems in developing countries is that most contraceptives, like the pill or any of the barrier devices,



Gursaran Parshad Talwar *(right)*, founder of the NII and the brain behind many of its accomplishments.

Sara Brezinsky

Robert Nickelsberg / Gamma-Liaison

At current rates, India's population will reach one billion by the year 2000.

require too much attention. So people don't use them," says Vernon Stevens, a reproductive immunologist who is currently working with the World Health Organization (WHO) on the development of another vaccine against pregnancy. "One of the big advantages of a vaccine is that people won't have to *do* anything – aside from taking the initial injections – to protect themselves."

Dr. Thau points to another less obvious issue. "In developing countries, men often oppose the use of contraceptives. This vaccine would allow women to use a birth control method without it being detected." Other new forms of birth control such as the Norplant device – which contains the synthetic hormone progestogen and is implanted in the arm – can be visible in thin women.

Most important, the vaccine has proved to be safe in clinical studies conducted in India. The Population Council has also carried out toxicology studies on the vaccine in Brazil, Chile, Finland and Sweden. "With Norplant, as with a number of other progesterone-based contraceptives like the pill, you can have irregular bleeding or amenorrhoea," Dr. Thau says. "The vaccine hasn't shown any adverse effects."

Gursaran Parshad Talwar, the founder of NII and the inventor of the vaccine, says he sought a new birth control method because he felt traditional contraceptives were poorly-suited to women in developing countries, like his native India.

"Birth control pills are too easy to forget. Condoms aren't always available. Intra-uterine devices can't be used because it means more blood loss for women who are already anaemic. And poor women don't want to get sterilized because they may want to become pregnant again if the children they already have die."

The vaccine works by getting the immune system to stimulate antibodies against a hormone called human chorionic gonadotropin (hCG), which prepares the body for pregnancy and makes a woman miss her menstrual period. Without that hormone, the embryo cannot anchor itself in the uterus, making pregnancy impossible.

To get the antibodies up to the right level, a woman currently needs to receive three injections of the vaccine at six-week intervals, much the way people are currently immunized against diphtheria and typhoid. Not a permanent form of birth control, the vaccine is effective for about one year. After that time, a woman can again become pregnant or opt for a booster shot that would protect her for another year, Dr. Talwar says.

The latest clinical study of the vaccine in India resulted in only one pregnancy in 88 women observed over 821 menstrual cycles. The testing period varied between six months and two years. Theoretically, the same number of cycles with no contraception would have resulted in 250 to 300 pregnancies.

Don de Savigny, an immunologist and IDRC programme officer, says the vaccine is not commercially viable right now because of the labour-intensive way it is produced. The fact that the vaccine must be administered in three separate injections also makes it less than ideal. NII scientists are currently working on developing a genetically-engineered version made with a synthetic hCG that could be administered in one dose and would be cheap to produce. While Dr. Talwar has a worldwide patent on the vaccine, he says it is not his intention to restrict it. "We want it to be available to people everywhere."

Dr. Talwar says he began work on the anti-pregnancy vaccine in 1975 because he wanted to do something to help ease the burden of overpopulation in his homeland. With 860 million people, India is now the second most populous nation on earth. If its current growth rate stays steady at 2.1 per cent, the subcontinent's population will hit one billion by the year 2000.

"I was very radical and idealistic as a student," says the Pasteur Institute-educated immunologist. "One is surrounded by so many problems here, and I wanted to do something to help my country. But at the time I didn't know how. I am very proud of what we have been able to do."

At the NII, rapid population growth is just one of the problems common to developing countries that scientists are working to stem. Recently, an institute-developed vaccine that can sterilize bulls was introduced on the Indian market, under the brand name Talsur.

This vaccine was developed with the goal of helping improve the lot of India's

Sara Brezinsky

The NII is also working on a vaccine to eradicate leprosy.

impoverished dairy farmers. "Talsur was designed to deal with our animal population problem," Dr. Talwar says, "as our religious beliefs do not permit us to slaughter them."

The vaccine sterilizes scrub bulls but leaves their libidos intact. This is important, Dr. Talwar says, because it enables farmers to determine when cows are in heat, at which time artificial insemination can be administered. In this way farmers can improve the genetic makeup of their herds.

Communicable diseases are also being tackled by NII scientists. Research conducted at the institute has already led to the development of a series of diagnostic kits for typhoid, amoebiasis and hepatitis – all of which are designed to be easier, cheaper and more reliable than those currently on the market.

The typhoid kit in particular is expected to be a dramatic improvement over the current diagnostic test being used. It will enable doctors to determine whether a patient has contracted the disease as early as a day after infection. The currently available Widal's test for typhoid can only be conducted eight to 10 days after the onset of fever – which doesn't show up until about a month after the disease is contracted.

Another advantage to the kit is its simplicity, says D. Ayub Qadri, the NII scientist who developed the new test. "Simply immerse a strip of enzyme-coated paper in a blood plasma sample and wait five hours. If it turns purple, that means the patient has typhoid," he says.

The other two diagnostic kits are designed to be equally convenient and inexpensive. The amoebiasis kit also comes with an enzyme-coated dipstick that changes colour to alert doctors to the presence of the disease. And the kit for hepatitis B is also expected to be more accurate than what is currently available on the market.

Since the 1980s, scientists here have been working on an anti-leprosy vaccine designed to both treat and prevent the disease. If proved successful, the institute's work could lead to the eradication of this ancient and stubborn scourge.

At the Ram Manohar Lohia Hospital in New Delhi, one witnesses the tragic effects of leprosy. Here, 38-year-old Kali Charan struggles to keep open an eye half shut by the bulbous lesions that cover most of his face. As he speaks, Mr. Charan slowly lowers himself into a chair while he awaits treatment. "I am in such pain now that I cannot walk," says the father of two, who was recently forced to quit his job as a security guard. "Now sometimes my family does not have enough to eat."

Today, an estimated two million people suffer from leprosy in India, according to WHO. The disease is treated through chemotherapy, which can take up to three years before a patient is cured. The slow pace of this form of treatment prompted scientists to seek an anti-leprosy vaccine, which if successful, would clearly be a major medical breakthrough.

"In the next 10 years, we expect to completely eliminate cases like Mr. Charan's with our vaccine," says Ahmed Zaheer, one of the institute's leprosy specialists.

The anti-leprosy vaccine is made from a non-pathogenic bacteria that has a molecular structure similar to the one that causes leprosy. It works by boosting the immune system in afflicted patients. Among more than 300 lepers who participated in a series of experiments in New Delhi, 75 per cent had dramatic health improvements after being injected with the vaccine. Some even experienced early recoveries.

Dr. Zaheer says it has been hard to determine how effective the vaccine is because none of the lepers who participated in the trials were taken off chemotherapy. Medical ethics in India, as in most countries around the world, dictate that an experimental treatment should never be used as a substitute for the proven cure of any disease. So the team has tried to compensate by administering placebos as well as the vaccine, while also expanding their experiment to explore the area of prevention.

Because the vaccine has never been given alone, S.K. Nordeen, head of the leprosy unit at WHO, thinks it is "premature" to look at immunology as a treatment for leprosy. But he adds that a preventive vaccine would be a "useful tool" since it would make eradication possible. ■

Denise Barricklow is a New-York based journalist.

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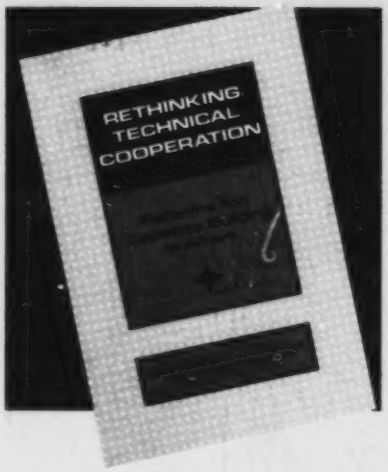

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In 1990, $3.5 billion was spent on technical cooperation in sub-Saharan Africa — one quarter of total aid to the region. But after decades of such assistance — where outside experts were sent in to help countries train staff and strengthen institutions — observers say that technical cooperation in Africa has left much to be achieved. "Real expenditure in this area has not decreased much, tens of thousands of expatriate personnel are still present, and many institutions critical to the functioning of a modern state simply do not work very well," say the book's authors.

Rethinking Technical Cooperation *assesses recent reform proposals and puts forward innovative ideas. It recommends greater cost-consciousness on the part of both donors and African governments in funding technical assistance, more attention to training and use of local personnel, and increased focus on problems of civil service disarray that prevent technical cooperation from "sticking." The book's concerns are at the heart of the development issues of the 1990s: faster economic growth and improved economic management through greater self-reliance.*

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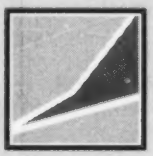

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